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Scared to death or scared to love? Terror management theory and close relationships seeking

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Abstract

To cope with paralyzing terror awakened by thoughts of their own death people usually use two defense mechanisms: cultural worldview and self-esteem. Recent studies suggest that also close relationships may function as a death anxiety buffer. The present research explores this phenomenon in an experimental paradigm. One hundred sixteen undergraduates completed a self-esteem scale, attachment scale, and a scale tapping ideal mate characteristics. After experimental manipulation each participant talked shortly with six unknown students of the opposite sex and rated their attractiveness. The results showed no effect of self-esteem either in the experimental or control condition. As for the attachment styles, we obtained significant interaction of avoidance and condition (non-avoidant participants were more favorable under mortality salience), and simple effect of anxiety (anxious participants increased the assessments regardless of the condition). Both effects were short-term and affected only the assessments of the first date. Copyright © 2006 John Wiley & Sons, Ltd.

The increasing number of terrorist attacks observed recently has forced people to face some existential issues evoked by the awareness of their finitude. In the field of psychological science this phenomenon is reflected by a revival of interest in Terror Management Theory. Proposed by Greenberg, Pyszczynski, and Solomon (1986), the theory asserts the crucial role of death concerns and describes two mechanisms people use to cope with mortality threats: worldview confirmation and enhancing self-esteem. Recent studies (Hirschberger, Florian, & Mikulincer, 2002; Mikulincer, Florian, & Hirschberger, 2003a) suggest that also striving for, and relying on close relationships can serve as a death anxiety buffer. The aim of our study is to provide further evidence for the protecting role of close relationships obtained on the basis of an ecologically valid but still well-controlled laboratory experiment.

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TERROR MANAGEMENT THEORY (TMT)

The theory, built from a tradition of existential and psychodynamic perspectives (e.g., Becker, 1971; 1973), is based on two fundamental premises: first, humans as other living beings are driven by an instinct for self-preservation. Second, unlike other living beings, humans possess the cognitive capacity to understand that they are alive and that ultimately they must die (Florian, Mikulincer, & Hirschberger, 2002). The theory asserts that an instinct for life, when incorporated with the awareness that death is unavoidable, results in paralyzing terror. To ward off thoughts of death people have devised several symbolic defense mechanisms (Hirschberger, Florian, Mikulincer, Goldenberg, & Pyszczynski, 2002), visualized as a dual-process model that comprises proximal and distal defenses. The proximal defenses incorporate attempts to suppress concerns over death, or to bias rational inferential processes, by shifting the problem of death into the distant future. The distal defenses, which are more indirect and symbolic, include attempts to modify people's perceptions of themselves and of the world in which they are embedded (Pyszczynski, Greenberg, & Solomon, 1999).

Most TMT studies have focused on two distal defenses: cultural worldview and self-esteem. Cultural worldviews are symbolic constructions that give order and meaning to the world, provide standards of value and behavior, and also the promise of transcendence (Simon, Arndt, Greenberg, Pyszczynski, & Solomon, 1998). TMT postulates that when confronted with thoughts of death people are motivated to protect their cultural worldview (e.g., Florian & Mikulincer, 1997; Greenberg et al., 1995)—to react positively to ideas and people that validate it, and to reject those who hold an opposite view (Florian & Mikulincer, 1998; McGregor et al., 1998). What is essential, these effects appear only when thinking about death—any other traumatic event (e.g., thinking about giving a speech or physical pain) does not produce similar reactions (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994).

The second distal defense mechanism, self-esteem, according to TMT, is achieved when a person is convinced that she or he emulates cultural expectations or behaves in a culturally-valued way. Therefore, individuals with high self-esteem feel that they are exemplars of their culture and enjoy the protection from the mortality concerns that their culture offers (Hirschberger et al., 2002). It has been found that experimentally induced high self-esteem attenuates the need to use cultural defense under the mortality salience condition, probably due to its capability to reduce the accessibility of death-related constructs (Harmon-Jones et al., 1997). This mechanism is not so clear when chronic self-esteem is considered, what is more, even a reversal pattern was found: in the Baldwin and Wesley's study (1996), high self-esteem participants were more rejecting (than low self-esteem subjects) to those who threatened their cultural worldview. Also Arndt and Greenberg (1999) found that an experimental boost of self-esteem does not reduce the worldview defense effect, if the threat relates to that aspect on which the self-esteem is based. To sum up, the research reports on the buffering role of self-esteem convey controversial and even contradictory results.

Recent studies (Hirschberger, Florian, Mikulincer et al., 2002; Taubman Ben-Ari, Findler, & Mikulincer, 2002) suggest that interpersonal processes such as mating may also serve as a defense mechanism that protects people from mortality salience. To date several studies have provided initial evidence supporting the death anxiety buffering function of close relationships. Mikulincer and Florian (2000) have shown that mortality salience induction increased the desire for romantic intimacy among securely attached individuals. Death reminders were also found to increase strivings for romantic commitment (Mikulincer & Florian, 2000). The findings of Florian et al. (2002) supported the anxiety-buffering function of close relationship and have shown that activating thoughts about relationship commitment reduces the need to activate worldview defenses.

Mikulincer et al. (2003a) listed three possible mechanisms explaining the observed effects of close relationships on mortality fears. First of all, affiliative behaviors may function as a universal soothing device for every kind of threat (e.g., Schachter's experiment (1959) or Bowlby's (1969/1982) attachment theory). Second, attachment behavior may enhance the effectiveness of two already verified mechanisms: cultural worldview confirmation and self-esteem building. Baumeister and Leary (1995) pointed out that all societies positively value and promote the formation of close relationships, whereas aloneness is often stereotyped as a state of unhappiness and social deviation (Peplau & Perlman, 1982). Also, having a successful relationship and being accepted by significant others is viewed as an important source of self-esteem (Leary, 1999). Finally, Mikulincer et al. (2003a) have provided a theoretical framework for the claim that close relationships serve also as a separate, third distal defense mechanism. They suggest that human needs for togetherness and attachment are subordinate components of the fundamental need for self-preservation (Mikulincer et al., 2003a). At the experiential level, close relationships provide a symbolic pledge of continuity and can protect from the fear generated by the consciousness of one's mortality. At the cognitive level they can directly abate the fundamental interpersonal concern which is the fear of loss of social identity. Florian and Kravetz (1983) showed the link between the death concerns and the worry that no one would remember us after death and that we would not leave any impression on the world. Thus, whereas affiliation to any person can work as a proximal defense by alleviating fear, only building a close relationship that promises stability can directly mitigate the death concern.

Mikulincer et al. (2003a) claim that relationship forming is a primarily, biologically based and evolutionary evolved mechanism. They suggest that reliance on the culturally derived terror management mechanism observed in many studies may result from the failure of close relationships to accomplish their anxiety buffering goal. There is some evidence supporting this view. For example, Wisman and Koole (2003) have demonstrated that participants in a mortality salience condition have preferred to be in contact with other people even if this preference could result in an attack on their own worldview. It may suggest that affiliation is more important than worldview defense—people are willing to affiliate even with worldview threatening others.

As far as self-esteem is concerned, it was found that death reminders lead to relatively high levels of desire for intimacy even following the partner's expression of complaint or criticism (Mikulincer & Florian, 2000). Hirschberger et al. (2002) demonstrated that mortality salience influences the readiness to compromise mate selection standards. Interestingly, high self-esteem participants, who were found to exhibit higher mate selection standards than low self-esteem individuals and were less willing to compromise these standards in neutral conditions, dramatically increased their inclination to compromise when exposed to thoughts of their own death. The authors explain this effect by referring to different levels of internal resources. They suggest that in response to mortality salience people with relatively low levels of internal resources (i.e., low self-esteem, insecure attachment) defend themselves against the terror of death by reacting in a negative manner toward those who threaten their cultural values, whereas individuals with relatively high levels of resources (high self-esteem, secure attachment) attempt to carry out the tasks relevant to their current stage in life (Hirschberger, Florian et al., 2002).

HYPOTHESES

We think that the function of close relationships as a terror management buffer may be moderated by two variables: self-esteem and the attachment style. While formulating our research we decided to verify both of them. The vast majority of studies described so far were conducted with the use of

paper-and-pencil methods. In the present study we chose to test those phenomena within an experimental paradigm based on the idea of 'fast-date.'[1]

Having in mind the contradictory results on the role of self-esteem in buffering the terror of death, we decided to base our hypotheses on the Hirschberger et al. (2002) idea of 'internal resources,' essentially for the reason that in their study, self-esteem was directly related to close relationships. Therefore, we hypothesized that in the mortality salience condition high self-esteem participants would assess potential partners as more attractive than in the control condition. At the same time we assumed that among low self-esteem participants there would be no significant difference between the experimental and control condition in assessing the attractiveness of their potential dates.

The second potential moderator is an attachment style defined as a systematic pattern of relational expectations, emotions, and behavior resulting from the internalization of a particular history of attachment experiences (Mikulincer & Florian, 2000; Mikulincer, Shaver, & Pereg, 2003b). Originally, attachment styles were described by Ainsworth, Blehar, Waters, and Wall's (1978) typology of three styles in infancy: secure, anxious, and avoidant, later by Hazan and Shaver's (1987) theory of parallel adult styles in the romantic relationship field. Subsequent studies have revealed that the best conceptualization of the attachment styles is in describing them on two dimensions: attachment anxiety and attachment avoidance (e.g., Carnelly & Brennan, 2002). The region where both dimensions are low is characterized by a sense of attachment security, comfort with closeness, and independence (Cassidy & Shaver, 1999). Secure persons exhibit a more positive history of close relationships (Hazan & Shaver, 1987; Mikulincer & Erev, 1991) and are more confident in others' availability in times of need than insecure persons (avoidant or anxious-ambivalent). The avoidant style is defined by a preference for emotional distance, distrust of other's goodwill, and compulsive self-reliance. People scoring high on the anxiety dimension are characterized by a desire for enmeshed relationships, a strong need for closeness, worries about the relationship, and an overwhelming fear of rejection (Cassidy & Shaver, 1999; Mikulincer et al., 2003b).

Taubman et al. (2002) research has shown that individuals scoring low on attachment anxiety or attachment avoidance in the mortality salience condition exhibit an increased willingness to initiate social interactions, lower rejection sensitivity, and more positive appraisals of interpersonal competence. The results of Mikulincer and Florian's (2000) study have demonstrated that mortality salience stimulates a higher desire for intimacy in romantic relationships only among securely attached persons, but not among avoidant and anxious-ambivalent people. These studies may indicate that only secure individuals regulate their existential fears through proximity search and may cope with those concerns by engaging in interpersonal contacts. Most probably, forming and maintaining close relationships serve an anxiety-buffering function only for securely attached persons. Since those individuals have experienced a positive history of interactions with significant others and hold positive beliefs about the self and others (e.g., Collins & Read, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987), they would tend to rely on close relationships defenses. Therefore, we predicted that individuals scoring low on the avoidance and anxiety scale would assess potential partners more favorably in the 'mortality salience' condition than in the control condition.

In contrast, people with insecure attachment style (those scoring high on anxiety or/and avoidance dimension) have a history of frustrating and painful interactions with attachment figures and hold negative beliefs about relationship partners (e.g., Collins & Read, 1990; Hazan & Shaver, 1987). Avoidant persons habitually inhibit relationship strivings (Fraley & Shaver, 1997) and display a

[1]During a typical fast-date equal numbers of men and women meet in a bar or cocktail lounge. Each boy and girl spends 4 to 8 minutes sitting opposite each other, and getting to know one another. After that time, an organizer rings a bell, and the boys move along to the next girl, but before they do, everyone decides if they would like to see that person again. If they do, they mark that on their match up card. At the end of the session, participants have the option of listing whom they would like to pursue. If there is a match, further contact information is given, and one-on-one dates can be arranged.

tendency to rely on themselves in hard times, whereas anxious persons perceive an intimate relationship as a potential source of problems and pain (Collins & Read, 1990; Feeney & Noller, 1990). We may assume that when dealing with existential fears, insecurely attached persons would not be willing or able to use close relationships defenses. For individuals exhibiting avoidant or anxious attachment style the very fact of being in a close relationship provides sufficient worries, while these fears doubled with the terror of death appear to be unbearable.

Although anxious and avoidant persons differ in the strategies they use to cope with distress (Mikulincer & Florian, 1998; Shaver & Hazan, 1988), we suppose that at the behavioral level they would react likewise, that is—prevent the activation of relationship strivings. Bearing that in mind, we hypothesized that insecurely attached individuals (those scoring high on anxiety and/or avoidance dimensions) would assess potential partners less favorably in the 'mortality salience' condition than in the control condition.

Hirschberger et al. (2002) have found that completing a mate selection task under mortality salience conditions led participants to increased feelings of shame and guilt. Specifically, high self-esteem individuals having compromised experienced a feeling of guilt, whereas low self-esteem individuals experienced shame. We suppose that these processes would not appear in a real life situation, when 'the compromise' is not made as deliberately as in the paper- and -pencil paradigm. Meeting a new person of the opposite sex may be for young single individuals so exciting that even if they lower their standards most probably they are not aware of the fact. To identify the emotional consequences of increasing or decreasing assessments given to the potential partners, we decided to measure the feelings experienced by participants after the 'fast date' procedure. Also initial ideal partner requirements, which have been confirmed as an important factor in the mating process (e.g., Hirschberger et al., 2002; Regan, 1998) were planned to be measured.

METHOD

Participants

One hundred and sixteen undergraduates (63 men and 53 women) voluntarily participated in the experiment without any reward. The research assistants asked young people on the streets or after lectures to take part in a study on interpersonal attraction based on the idea of 'fast-date.' As it was said, the participants would be asked to complete a few psychological questionnaires and meet other young persons of the opposite sex in order to rate their attractiveness as potential partners. The research assistants suggested that during the experiment one can make the acquaintance of someone for a real date.

Individuals who met three criteria: being a student, aged between 19–24, and not being involved in a romantic relationship at that time were invited to the laboratory. Psychology students as those more experienced in such studies, and therefore more suspicious, were not invited. Participants were randomly divided into two conditions: mortality salience and control.

Materials

Ideal Partner Requirements

We used the scale tapping ideal mate selection standards, translated and back-translated by the authors from the original Regan's (1998) Scale. This consists of 24 characteristics adapted from earlier studies

on mate selection. Respondents are asked to think about their ideal romantic partner and to rate the extent to which they want this ideal partner to possess the listed characteristics. The principal components analysis conducted by Regan (1998) revealed six factors (altogether explaining 67% of the total variance): interpersonal skill and responsiveness, intellectual characteristic, physical attractiveness, social status, interpersonal power, and family orientation. The internal consistency of each of the six subscales was proved to be relatively high. In our study Cronbach's alphas for Regan's scale ranged from alpha = 0.65 to alpha = 0.89.

Self-esteem

Global self-esteem was assessed with a Polish version of Rosenberg's (1965) Self-Esteem Scale. The internal consistency measured in a previous Polish study by Derbis and Bańka (1998) was satisfactory, and it was similar in our study (alpha = 0.72). Scores were computed by averaging responses to the 10 items made on a 10-point scale that ranged from strongly disagree (1) to completely agree (10). Higher scores indicate higher self-esteem.

Attachment Style

The Experiences in Close Relationships (ERC) inventory (Brennan, Clark, & Shaver, 1998) was translated into Polish independently by each of the three authors. Then a consensus translation was reached. This latter translation was checked through back-translation by a native English speaking professional interpreter. The Polish translation did not differ in any respect from the original version. The scale consists of two subscales—each comprising 18 items reflecting a typical way in which avoidant or anxious-ambivalent persons experience their romantic relationships. Respondents express the way they usually feel and behave in a close relationship by indicating on a 7-point scale anchored from 1 (I don't agree at all) to 7 (I agree completely) to what extent they agree with a particular statement. This version proved to have a satisfying internal consistency for the whole scale (alpha = 0.80) as well as for each of the separate subscales (alpha = 0.85 and alpha = 0.86 for avoidance and anxiety, respectively).

Potential Partner's Attractiveness

A special 'rating form' was used for capturing participants' assessments for individuals encountered during the 'fast-date.' It consisted of a table where the participants wrote down the name of the interlocutor together with the global rating for his or her attractiveness (global impression) and several ratings on a number of categories: intellect, interpersonal skills and responsiveness, physical attractiveness, social status, and interpersonal power (subjects used the scale from 1 to 10). These categories mirrored the factors which had emerged in Regan's scale (except from 'family orientation,' which we believed would have appeared as a too intimate topic for a 4-minute conversation with a stranger). It was stressed that the global rating (global impression) could have been independent from specific category ratings.

Emotions

To assess the participant's emotional state after the 'fast-date' we used a Polish version of the Positive and Negative Affect Scale (PANAS) developed by Watson, Clark, and Tellegen (1988). This scale

consists of two 10-item subscales of positive and negative affects, where participants are asked to indicate their current emotional state. As in the original version also in our sample both scales showed high internal consistency (Cronbach's alphas were 0.78 and 0.85 for Positive Affect and Negative Affect, respectively).

Procedure

After arriving at the experimental site participants were asked to complete a set of self-report questionnaires in the order described above. After completing the ERC, mortality salience was manipulated. As in the previous studies, participants in the experimental condition received two open-ended questions devised by Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon (1989) that served to remind them of their future death (*1. Please briefly describe the emotions that the thought of your own death arouses in you, 2. Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead*). In the control condition respondents answered parallel questions where all references to death were replaced with 'watching television.'[2]

Because previous studies have shown that mortality salience effects occur when people have been distracted from death reminders (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997), following the mortality salience manipulation, all participants completed a 6-item filler-distractor scale on hobbies, favorite sports, and films. All questions were carefully selected in order to avoid any topics engaging self-esteem or worldview.

Having completed the questionnaires, participants were invited to another room, where they were to meet six unknown people of the opposite sex. In order to control the course of the interaction, we decided to engage some psychology students who acted as false-participants (further in the text called as 'confederates'). As a result of 'experimental casting' we chose six young women and six young men, whose attractiveness was most consistently judged by peers (their attractiveness' ratings represented the smallest variance and the lowest standard deviation). Our confederates were trained to behave in the same manner with each of the real participants.

Six real participants of the same gender entered the conversation room and were randomly seated. Then another group of six people (our confederates—always of the opposite sex to the real participants) arrived. Having got them all comfortably placed the experimenter explained the procedure of 'fast-date' in detail.

The participants talked in pairs for four minutes on a subject of their choice. After each conversation the experimenter came into the room and asked the participants to change their places and to complete the 'rating forms.' It was stressed that they should start the assessment from the global rating for the 'date's' attractiveness (global impression) and afterwards—evaluate specific traits (intellect, interpersonal skills and responsiveness, physical attractiveness, social status, and interpersonal power). Our confederates also completed the same scale for the respective participants. This was important to maintain the impression that they were real participants and to control the influence of the attractiveness of the real participants. Following the 'start' signal, real participants and our confederates began to talk again. Each time the experimenter left the room to make them feel comfortable and not observed. After six conversations and upon leaving the room participants were asked to complete the scale describing their mood at that moment (PANAS).

[2]In some of the preceding experiments (e.g., Greenberg et al., 1994; Greenberg et al., 1995), also in those exploring the buffering function of close relationships (Hirschberger et al., 2002; Florian et al., 2002), the results obtained from the 'physical pain' condition were significantly different from the results gained from 'mortality salience' condition. Knowing that and following other researchers (Hirschberger, Florian, & Mikulincer, 2003; Wisman & Koole, 2003; Mikulincer & Florian, 2000), we decided to simplify the procedure of our study and use only 'watching television' as a control condition.

RESULTS

Introductory Analyses

Before examining our main predictions we conducted preliminary analyses concerning the relationships between independent variables: ideal partner requirements, self-esteem, and attachment style. Table 1 presents the intercorrelations for all relevant variables.

As predicted, subjects with high self-esteem declared higher demands in relation to the general attractiveness of an ideal partner, $r\,(1, 108) = 0.20$, $p = 0.04$. What seems to be interesting, most of Regan's subscales did not correlate significantly with the self-esteem measure when taken as separate variables—only the average score from the whole of Regan's scale was significant. This provides support for the idea that it is the global level of demands, not any specific dimension of requirements, which seems to be related to self-esteem.

There was no significant correlation between ideal partner requirements and two subscales of the Experiences in Close Relationships Inventory. Neither avoidance, nor anxiety was related to the general image of an ideal partner. Only one dimension of Regan's scale (required level of potential partner's interpersonal skills) was marginally associated with avoidance, $r\,(1, 108) = -0.19$, $p = 0.05$, showing that avoidant persons demanded less in that area.

We found a marginally significant correlation between Rosenberg's scale and anxiety ($r\,(1, 107) = -0.20$, $p = 0.03$). Anxious participants reported lower levels of global self-esteem.

We have not observed gender differences in the average level of requirements concerning ideal partners. More in-depth analyses revealed only one significant effect for a single item: women more than men expected their ideal partners to possess high status (mean values 25.21 for women, 19.08 for men, $t\,(1, 108) = 3.48$, $p < 0.001$). This is consistent with previous findings in this area (Buss, 1999; Regan, 1998). No significant gender differences were found in the mean distribution of self-esteem, and both dimensions of the attachment style.

We decided to conduct an exploratory analysis of the emotions evoked after our 'fast-date' procedure. In order to know what kind of feelings our participants did experience, we examined the distribution of the results obtained in the PANAS items. Most of them turned out to be far from the normal distribution pattern. One hundred and three participants, out of all those who completed the questionnaire ($n = 110$), indicated that they did not feel guilty at all. Eighty-three declared the lowest possible intensity of shame; more than ninety declared they are not worried at all. None of the dimensions representing negative feelings constituted normal distribution, whereas most of the positive did. Therefore, we can conclude that in general the 'fast-date' paradigm aroused relatively positive emotions.

Examining the relation between the dimensions of the attachment style and post-experimental emotions, we have found a negative correlation between avoidance and positive emotions—the more avoidant the participant was, the less positive emotions he or she experienced ($r\,(1, 108) = -0.20$,

Table 1. Intercorrelations for self-esteem, ideal partner requirements, and attachment style

	Ideal partner requirements	Avoidance	Anxiety
Self-esteem	0.20*	−0.09	−0.20*
Ideal partner requirements		−0.13	0.02
Avoidance			−0.08

Significance: * = $p < 0.05$.

$p = 0.03$). Anxious participants displayed the model example of ambiguity, because anxiety was at the same time significantly associated with positive (r $(1, 108) = 0.30$, $p = 0.001$) and negative feelings (r $(1, 108) = 0.20$, $p = 0.04$).

Main Analyses

During the 'fast-date' procedure the participants assessed the global impression made by the potential partner and her/his five traits (social competence, intelligence, physical attractiveness, social status, and interpersonal power). Consequently, two kinds of dependent measures appeared as follows: (1) the global impression rating and (2) specific trait ratings (both assessed on a scale ranging from 1 to 10). Every participant rated each of the six confederates in this way. During the data examination we analyzed: (a) averaged ratings given by the participant to all potential partners (indicating how generally the participant perceived our confederates—was she/he generally favorable or critical), and (b) separate ratings for each subsequently met confederate[3] (to explore the dynamics of the process and check whether the participants' reactions to potential dates depended on the time or order in which they met them). Underneath, we discuss the results, first with the global impression ratings for all (1a) and subsequent potential partners (1b) as dependent variables. Next, specific trait ratings given to all (2a) and each potential partner separately (2b) serve as dependent variables.

To check for the main effect of the experimental manipulation and its expected interactions, we performed for each type of the dependent variable a General Linear Model (GLM) of analysis with condition (control/MS) as a nominal predictor. As continuous predictors we included two attachment style dimensions and self-esteem, as well as their interactions with condition (condition × anxiety, condition × avoidance, and condition × self-esteem). To control for the effect of the initial requirements, the mean values on the general score and subscales in Regan's Scale were included as covariates.

For the global impression of all dates as a dependent variable (1a) the main effects of condition, attachment styles, and self-esteem were insignificant, $F(1, 97) = 2.63$, *n.s.*; $F(1, 97) = 0.005$, *n.s.*; $F(1, 97) = 0.11$, *n.s.*; $F(1, 97) = 2.10$, *n.s.* for condition, self-esteem, avoidance, and anxiety, respectively. Contrary to the first hypothesis, the expected interaction of the self-esteem × condition turned out to be insignificant, $F(1, 97) = 0.04$, *n.s.* In line with the hypothesis concerning attachment styles, we found the significant condition × avoidance interaction, $F(1, 97) = 4.31$, $p = 0.04$. However, we have failed to obtain the same effect for the anxiety dimension, $F(1, 97) = 3.25$, *n.s.*

To explore the dynamics of the interaction between condition and avoidance, we divided the whole group of participants into three groups,[4] and conducted 2 × 3 ANCOVA with condition (control / MS) and avoidance (non-avoidant, moderately avoidant, and highly avoidant) as predictors (raw means are presented in Table 2). Anxiety, average initial requirements, and self-esteem were included as covariates.

Planned comparisons between conditions revealed that among non-avoidant participants those in the MS condition assessed their dates higher than those in the control condition, $F(1, 97) = 3.47$, $p = 0.06$, ($M = 7.22$ for MS, $M = 6.45$ for control condition) and this effect was marginally significant. Among moderately avoidant individuals we observed a reversed pattern: those in the control condition ($M = 6.85$) were more favorable than those in MS ($M = 6.28$), $F(1, 97) = 3.63$, and $p = 0.06$. Among highly avoidant individuals the tendency was identical ($M = 6.68$ and $M = 6.29$ for control and MS

[3]It should be noted that during each session six participants talked simultaneously with six potential partners, therefore the order in which each participant met subsequent confederates was different.

[4]In order to come up with exceedingly distinct groups we used quartile values on 'avoidance' dimension. Two groups have been formed from external quartiles (first and fourth), and one (moderate) group has been combined with two 'inner' quartiles.

Table 2. Raw means for global impression (of all dates and 1st met date) as a function of condition and avoidance

	All dates	First date	
	M (*SD*)	*M* (*SD*)	*n*
Control condition			
Non-avoidant	6.45 (1.62)	6.07 (2.55)	14
Moderately avoidant	6.85 (0.96)	7.69 (1.55)	23
Highly avoidant	6.68 (1.39)	7.45 (1.92)	11
Mortality salience condition			
Non-avoidant	7.22 (0.91)	7.61 (1.66)	13
Moderately avoidant	6.28 (0.98)	6.77 (1.67)	28
Highly avoidant	6.29 (1.18)	6.82 (1.33)	17

condition, respectively) as it was for the moderate group, however, it was statistically insignificant, $F(1, 97) = 1.23$, $p = 0.27$. Within the control condition there were no significant differences between non-avoidant and both moderate, $F(1, 97) = 1.65$, $p = 0.20$, as well as highly avoidant people, $F(1, 97) = 0.68$, $p = 0.41$, whereas in the MS condition, non-avoidant participants were significantly more favorable than the moderate, $F(1, 97) = 6.21$, $p = 0.01$ and than the highly avoidant, $F(1, 97) = 4.96$, $p = 0.03$.

Then we repeated the GLM analysis with the same set of predictors separately for the global impression ratings given to each subsequently met confederate (1b). Only assessments given to the first confederate revealed some significant results. For this dependent variable we have found a significant interaction of condition × avoidance, $F(1, 97) = 5.94$, $p = 0.02$. (Raw means for the first date's assessments by the condition and the avoidance level from ANCOVA are presented in Table 2; the interaction is pictured in Figure 1.)

In line with our hypothesis, planned comparisons for means obtained from ANCOVA indicated that non-avoidant participants under MS assessed the first person significantly higher when compared to the control condition, $F(1, 97) = 7.22$, $p < 0.01$ ($M = 7.61$, $M = 6.07$ for MS and control condition, respectively). In contrast, moderately avoidant participants assessed the first date less favorably in MS than in the control condition ($M = 6.77$ for MS, $M = 7.69$ for control condition, $F(1, 97) = 4.38$, $p = 0.04$). Among highly avoidant participants, showing identical dynamics and almost identical means, this effect has not reached a level of significance, $F(1, 97) = 2.07$, $p = 0.15$. Interestingly, in the control condition non-avoidant participants assessed the first date significantly lower than the

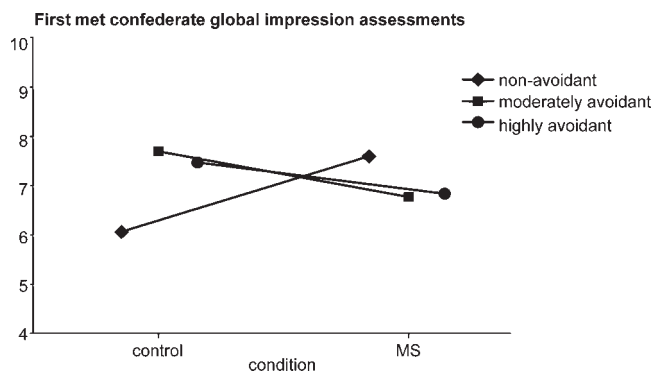

Figure 1. Global impression of the first confederate met as a function of the condition and avoidance level

moderate, $F\ (1, 97) = 10.55$, $p < 0.01$ and than highly avoidant persons, $F(1, 97) = 6.90$, $p = 0.01$. Under the MS condition there was no significant differences between these groups (see Figure 1).

GLM analyses revealed no significant condition × anxiety interaction effect on the global impression ratings for the first met confederate, $F(1, 97) = 1.61$, *n.s.* Instead, the unexpected main effect of anxiety emerged here, $F(1, 98) = 6.45$, $p = 0.01$. To explore the nature of this influence we have regressed the dependent variable on anxiety together with all independent predictors and their interactions. We have found that the more anxious the participant was, the more favorably she/he assessed the first met confederate ($\beta(1, 97) = 0.26$, $p < 0.01$).

The analyses revealed no significant effects involving self-esteem. The scores given to the first met confederate on the global impression dimension were not affected by self-esteem nor its interaction with the condition, $F(1, 99) = 0.01$, *n.s.*; $F(1, 99) = 0.01$, *n.s.*; $F(1, 99) = 0.0004$, *n.s.* for the condition, self-esteem, and condition × self-esteem interaction, respectively. Next, as intended, we have conducted the same set of GLM analyses for specific trait ratings given to all (2a) and each subsequently met confederate (2b) as dependent variables. However, these have revealed no significant results.[5]

To sum up, the main effect of anxiety as well as the interaction of the condition with avoidance turned out to be significant only for the global impression score given to the first confederate met. It seems that the significant effects found for averaged assessments given to all the confederates were loaded mostly by the assessments given to the first met date. Therefore in the subsequent section we discuss the results of the analyses with the first confederate global impression ratings as a dependent variable.

DISCUSSION

The starting point for our research was the question whether close relationships can serve as a buffer for death-related thoughts. We assumed that engaging in contact with an important person may be a shelter from mortality threats, however, not for everyone. According to our hypotheses, only individuals exhibiting secure attachment style and high self-esteem are able to use close relationships as a defense mechanism. These predictions have been partially confirmed. The results obtained from our experiment suggest that self-esteem does not play any essential role in the process, whereas the attachment style is an important moderator of the effect.

During the experimental procedure, when in the laboratory participants met peer strangers and rated their attractiveness as possible mates, their assessments differed according to how anxious or avoidant they were. Anxious individuals gave higher scores than non-anxious individuals both in control and experimental condition. This result is inconsistent with our predictions and with previous findings (e.g., Tolmacz, 2004). Why did that happen? As we know (e.g., Mikulincer, Florian, & Tolmacz, 1990) people scoring high on anxiety show an increased level of both conscious and unconscious death-related thoughts. Probably, that 'customary' level of mortality salience is high enough to be present also in everyday situations. In our case it could have appeared even in the control condition, not only in the experimental one, therefore we did not gain any significant difference between these two.

What seems to be intriguing is that anxious subjects assessed potential mates more favorably than non-anxious ones, not more harshly—as we expected. This could denote that they also look for

[5]Additionally we conducted GLM analyses with consecutive confederates' assessments as repeated measures. It did not reveal a significant interaction effect for condition × order for any of the independent variables: anxiety $F(10, 485) = 1.30$, $p = 0.22$; avoidance $F(10, 485) = 0.85$, $p = 0.58$ or self-esteem, $F(10, 490) = 0.68$, $p = 0.74$. It may be supposed that the significant effect for the first person was not powerful enough to influence the whole interaction.

support in close relationships. It contradicts our prediction based on the belief that anxious individuals experience so many problems in their relationships that they should not treat those relationships as a source of reassurance. Nevertheless it seems that we have missed a critical point, which is the difference between the attitudes and behaviors connected with *being* in a relationship and strivings to *create* one. On the one hand, it is known that anxious–ambivalent individuals tend to perceive their relationships as precarious and their partners as unresponsive to their needs, unreliable, and rejecting intimacy (Simpson & Rholes, 1994). The anxious–ambivalent love style is also associated with the term 'desperate love' (Shaver & Hazan, 1988). On the other hand, beside obsessive preoccupation, anxious individuals display a strong desire for commitment in relationships (Feeney & Noller, 1990). Repeated episodes of attachment-figure unavailability or non-responsiveness combined with the appraisal of proximity-seeking viability lead to heightened desires for closeness, merger, and security in close relationships (Mikulincer & Shaver, 2003). Therefore, in contrast to highly avoidant persons, anxious individuals usually want to engage in a close relationship. Not without a reason they are called anxious–*ambivalent*, because their attitude is a product of competing and conflicting motives: they want to build a close relationship, but at the same time they are preoccupied with possible relationship problems.

We conceptualized anxious attachment more in the context of a regular long-term relationship, whereas, as it appears now, in the 'fast-date' paradigm we should talk more about *establishing* a relationship. The results of our study make us suspect that maybe at the very first stage of creating a relationship desire surpasses anxiety—therefore anxious participants, despite their fears, increased the assessments of potential mates. That claim is supported by the scientific reports stating that anxious persons describe their romantic relationships in terms of strong physical attraction and proneness to fall in love quickly and perhaps indiscriminately (Feeney, 1999).

The scores gained on the 'avoidance' scale divided participants' behaviors in line with our hypothesis. Among non-avoidant participants, those in the MS condition assessed their first met dates higher than those in the control condition. That might prove that for non-avoidant persons engaging in a close relationship (exhibited here by the increase in ratings for a potential partner) could be a buffer for the fear of death. Among moderately avoidant individuals we observed a reversed pattern: those in the control condition were more favorable than those in the MS.[6] Among highly avoidant individuals the tendency was identical to that of the moderate group, however, it was statistically insignificant. It seems that for people showing at least a moderate level of avoidance, an intimate relationship does not serve as a shelter from mortality threats, moreover—activating the possibility of engaging in close contact scares them away. This conclusion stands in line with the claim stating that avoidant individuals have internalized working models that tell them not to rely on others or invest in a relationship with others, because people are unreliable and threatening (Tolmacz, 2004).

Focusing on the comparisons within the conditions we have derived a surprising result. Non-avoidant participants assessed the first potential partner significantly lower than moderately and highly avoidant persons in the control condition, but under the MS there were no significant differences between these groups. The question arises: why would non-avoidant persons assess our confederates lower than moderate and highly-avoidant? We suspect that the answer might be related to the different love styles, displayed by people with diverse attachment styles. Levy and Davies (1988) found that secure attachment style corresponds to the love styles described by Lee (1973, 1977) as 'eros' ('passionate love') and 'agape' ('selfless love'), whereas avoidant attachment was related positively to 'ludus' ('game-playing love'). Some researchers also report that avoidant individuals are more likely than anxious or secure people to approve casual sex and engage in 'one-night' stands (Brennan &

[6]These effects were significant when the global attractiveness of the first person met during the 'fast-date' was involved and marginally significant when a global impression of all interlocutors was engaged.

Shaver, 1995; Fraley, Davis, & Shaver, 1998). We suppose that in the control condition non-avoidant and avoidant persons displayed those 'typical' preferences. If that was so, avoidant participants conceptualized 'fast-date' as a chance for having fun or playing a game of love rather than a beginning of a serious relationship, and that frivolous attitude influenced their assessments of possible partners. In contrast, persons scoring low on the avoidance scale, who in real life believe in selfless and passionate love, in the control condition rated a new acquaintance's attractiveness with caution, what might be an indication of a serious attitude. As Mikulincer, Florian, and Hirschberger (2004) claim, death reminders increase a person's willingness to form stable and satisfactory romantic relationships. Their findings (2004) imply that mortality salience heighten a positive-approach attitude to love styles that can maintain and enhance the quality and stability of romantic relationships ('eros' and 'agape' styles). Therefore, while reminded of their inevitable death, non-avoidant participants in our study changed their initial attitudes and raised the ratings of a potential partner's attractiveness, using in this way engagement in a close relationship as a terror buffer. In the same vein, those avoidant subjects, who found themselves in the experimental condition, while reminded about their death, could unconsciously refer to one of the potential defense mechanisms—engaging in a close relationship.[7] But in that special context there was no room for fun and games, therefore avoidant participants faced the problem of a serious close relationship and behaved according to their typical attachment strategy, that is withdrawing. Thus, our results might suggest that the effect of heightening positive attitude toward stable long-term relationships does not work equally for everyone and may be moderated by the attachment style.

At this point we need to explain why these effects were significant only for the assessments given to the first person met. One possible reason for this unexpected result is that, due to some experimental circumstances, only the first interlocutor was assessed in relation to the ideal partner requirements. Although, the subjects were clearly instructed at the beginning of the 'fast-date' to refer to their previously declared requirements, they might have forgotten about them after the first interaction. Instead, they could use the image of the first person as the 'anchor' for the subsequent judgments. An alternative explanation also concerns the inferential influence of the experimental situation. None of the participants had ever attended a 'fast-date' procedure before. Waiting for the first interaction could have resembled a normal life situation and therefore elicit strong emotions and behavioral patterns, whereas every subsequent conversation introduced by the experimenter's insistent commands to change places and fill in questionnaires could have been experienced as an 'experimental, not real' situation. Therefore latter conversations would have not induced such strong feelings toward the possible date as the first one and could be treated rather in rational but not experiential way of thinking. Some empirical work could support this line of reasoning. Simon et al. (1997) have demonstrated that worldview defenses are applied only if individuals are in an experiential, not rational, mode of thinking when considering their mortality. If other defenses—like seeking the relationship—work under similar conditions, then it is possible that only the first potential mate has been judged in an experiential mode of thinking, whereas each of the subsequent—in a rational mode, and that is why the effect of experimental manipulation was limited only to the first confederate. We suppose that probably for the same reason only the assessments of global impression (which was the first of several dimensions assessed by participants) displayed significant effects. It might have been also processed in an experiential mode, whereas each of the subsequent specific dimensions (intellect, interpersonal skills and responsiveness, physical attractiveness, social status, and interpersonal power) could have been processed in a more rational mode.

[7]According to Mikulincer et al. (2004) close relationships, as a biologically based, evolutionary evolved mechanism, may precede the symbolic needs of worldview validation and self-esteem maintenance.

Last, but not least, we can explain this result with relation to the nature of mortality salience phenomenon. Convincing studies by McGregor et al. (1998) showed that terror management might be similar to other psychological defenses in that once one mode of addressing the threat is used, further defense is not needed.[8] It is plausible and even reasonable then that once the person establishes the opportunity to create a new relationship (by assessing the first potential date as highly attractive), he or she does not need to look for another 'tool' to fight the fear. Additionally, having in mind that securely attached people under MS increase the striving for more serious types of love: 'agape' or 'eros', (Mikulincer et al., 2004) it would be even jeopardizing for their needs to assess all six dates extremely high.

Puzzling are the results for self-esteem which turned out to have no effect on potential partner assessments—neither solely as an independent factor nor in the interaction with condition. It contradicts the most popular notion that self-esteem serves as one of two primary buffering mechanisms against death-related thoughts (Greenberg et al., 1986; Harmon-Jones et al., 1997; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004; Solomon, Greenberg & Pyszczynski, 1991). What is more, these results do not confirm our hypotheses, either. On the basis of Hirschberger et al. (2002) idea that people possessing high levels of 'internal resources' (consisting in a great part of self-esteem) can manage the terror of death by referring to close relationships, we predicted that high self-esteem people under mortality salience would assess potential mates more favorably. Surprisingly, we have not observed any differences between assessments done by high- and low-esteem participants.

The first possible explanation is that the relation between self-esteem and the assessments given to possible dates is curvilinear in the way that both extremely high- and low-self-esteem participants behave in the same way: assess potential dates more strictly. High-self-esteem people may rate the dates relatively low due to their high demands (indeed, in our study high-self-esteem participants declared higher ideal mate standards). On the other hand, low-self-esteem people are prone to a general negative judgment bias—both toward themselves as well as toward other people, which has been recently called a *floccinauhilipilification* (Baumeister, Campbell, Krueger, & Vohs, 2003). No effect of self-esteem on the potential partner's assessments could be therefore caused by these two mechanisms leading the opposite groups to the same result. However, if the relation of self-esteem to attractiveness' ratings is curvilinear then we should obtain a significant simple effect of self-esteem in ANCOVA with self-esteem as a nominal predictor divided into three (low, moderate, and high) groups instead of two. We have checked for this but no such effect has emerged.

Second, it is possible that some of our participants declared higher self-esteem than they actually possessed causing this way *the ceiling effect*. That could have happened especially if they were self-reporting on their self-esteem *after* declaring ideal mate standards, not like in Hirschberger et al. study (2002), in which the self-esteem scale was administered prior to Regan's scale. Researchers exploring the mechanisms of matching processes showed that initially everybody wants to obtain an ideally attractive partner.[9] As long as these expectations are considered theoretically, people are not afraid of being rejected and usually remain very demanding (Folkes, 1982). Thus, when asked to describe the ideal partner, one indicates the highest values, regardless of her or his own value. If the request to assess the level of self-esteem comes afterwards, in order not to experience the dissonance, people may adjust these reports to the degree which justifies previously declared high demands. That kind of ceiling effect, by diminishing the variation of raw data would make all actually existing statistical relations impossible to observe. Anyway, because the range and the average level of self-esteem obtained in this research does not deviate significantly from the scores obtained by other Polish researchers (e.g., Śmieja, 2002) we find this 'ceiling-effect' explanation fairly doubtful.

[8]We are very grateful to our anonymous Reviewer, who suggested this interpretation.
[9]This seems to be true especially for very young people, not experienced in relationships.

Third, there is a possibility that our high self-esteem group was heterogeneous. According to the data reviewed by Baumeister et al. (2003), some people's high self-esteem is rather defensive, self-deceptive, and self-enhancing than genuine. Therefore, it may be that within our high-self-esteem sample two different groups were combined—those with genuinely high self-esteem and those who defensively increased self-ratings on this dimension. Those genuinely high in self-esteem could indeed increase the ratings of potential dates in the MS condition (referring to the internal resources and their developmental role), but those for whom high self-esteem was more a façade than a real resource could behave conversely, decreasing the ratings for potential partners, in order to avoid the verification during the date or to defend their self-esteem by defeating others (Brown, 1986; Pelham, 1993). This could lead to reciprocal alleviating effects within the high-self-esteem group and make its results not much different from those exhibited by low-self-esteem participants. Noteworthy, our participants were single, so they could have defensively declared high self-esteem also because they had become endangered in their self-confidence by the anticipation of 'fast-date' procedure (being assessed[10]). This may be the reason for the difference between ours and Hirschberger et al. (2002) results, as their subjects were mostly engaged in some relationship at that time. However, the opposite could have happened as well—we can not exclude that our participants were genuinely self-confident, whereas those from Hirschberger et al. high-self-esteem group were—for some other reasons—defensive. To differentiate between genuine and boosted self-esteem, Baumeister et al. (2003) suggest controlling for narcissism, self-deception, or temporal stability of self-esteem. As neither we nor other researchers exploring TMT and close relationships relations have done it, it is impossible to verify this explanation.

To sum up, it seems that the moderating effect of self-esteem on the buffering role of mating as a shield against death concerns remains unclear. The zero effect of self-esteem obtained in this study, surprising and difficult to interpret, corresponds with a wide array of controversial data on the topic. Contradictory results from different studies require a more careful look at the experimental settings which are used and other possible variables which could play a vital role there—e.g., the stability or genuineness of self-esteem and its relations to attachment styles.

It should be remembered that, although reasonable, our interpretations are quite speculative and need further experimental research to ensure confirmation. At the moment, we can only suspect what motives determine the over- and underestimating of possible partners and what decisions stand behind participants' assessments. To verify the postulated mechanism further experiments need to be designed, in which participants would be asked to indicate who, amongst all the potential partners introduced, they would want to meet again (which would mean to engage in a close relationship). A future procedure should also include instruments enabling the clear control of participants' love styles and motivation, discriminating between those striving for long- and short-term relationships.

In general, the results of our research support the idea that close relationships can serve as a death-anxiety buffer. Previous studies (Mikulincer & Florian, 2000; Taubman Ben-Ari et al., 2002) have revealed that this special defense mechanism is usually used by securely attached individuals—people described as low in both avoidance and anxiety. We succeeded in providing initial evidence that only one of these dimensions—avoidance—plays a crucial role in the process. As can be concluded from our data: to strive for a close relationship under mortality salience, one does not have to be low on anxiety dimension, it is sufficient that one is non-avoidant. Especially, noteworthy is the fact that our data supporting that statement was gathered by assessing behavioral manifestations, not self-reports examining hypothetical situations.

[10]Being motivated by the fact that in individualistic cultures positive self-regard is predominantly perceived as the indicator of good psychological adjustment (Heine, Lehman, Markus, & Kitayama, 1999), and therefore person with high self-esteem and self-confident becomes more attractive for the potential partner (Sedikides & Skowronski, 2000).

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